Reviews

Yerkes Observatory, 1892–1950: The Birth, Near Death, and Resurrection of a Scientific Research Institution

by Donald E. Osterbrock


It is perhaps a sobering thought that 100 years after the dedication of the Yerkes Observatory, the 40-inch refractor is still the largest of its kind in the world. By the turn of the century George Ellery Hale’s ideas had shifted to larger reflectors and West Coast observatories, and within a few years Mount Wilson Observatory was established. But when Charles T. Yerkes was persuaded to finance the observatory which took his name, it was not just the primary telescope that was intended to be ‘big’; the whole concept of the observatory was that it would be dedicated to ‘big’ science.

The subtitle of the book can be equated directly with Yerkes’ first three Directors. Under its founder and first Director, G. E. Hale, it pioneered astrophysics. In 1904 Edwin B. Frost was appointed Director, and during his 28-year tenure the Observatory gradually declined. The ‘resurrection’ was brought about by the ‘boy Director’ Otto Struve, who, with the support of Robert M. Hutchins, the new ‘boy President’ of the University of Chicago, placed Yerkes Observatory once again at the forefront of astrophysical research. From the beginning, Struve’s thoughts were fixed on the completion of a large reflecting telescope, and this ultimate goal was achieved with the establishment of the McDonald Observatory and its 82-inch reflector, at Mount Locke, Texas.

This book is not dedicated to Yerkes Observatory’s scientific results, although these obviously play a part. It is primarily a definitive and scholarly account of its establishment and evolution; of research programmes; of the problems of funding, salaries and instrumentation; and of the conflicts of interest, including personal (and, in some cases, racial) prejudice; and of those who contributed to its output over several decades. The pages are littered with the names of the greats. Robert might – Hale, Frost, Adams, Burnham, Ritchey, Barnard, Struve, Chandrasekhar, Hubble, Ross, Van Biesbroeck, Kuiper, Strömgren, Morgan... and countless others, but lesser characters also make an appearance; for example, Elmer Dershem, ‘an elderly unproductive physicist from Chicago, appointed astronomer in charge of maintenance at McDonald Observatory... a long-winded, tiresome talker, extremely conservative and all too likely to blame President Franklin D. Roosevelt personally for any shortages of necessary supplies.’

Donald E. Osterbrock (who admits to being an ‘unashamed admirer’ of Yerkes Observatory) was an undergraduate and graduate research student at the University of Chicago, and holds five degrees. His teachers included Struve, Chandrasekhar, Kuiper, Morgan, Strömgren and Fermi. From 1973 to 1981 he was Director of Lick Observatory, and is now Professor Emeritus of Astronomy and Astrophysics at the University of California, Santa Cruz. He is also the 1997 recipient of the Gold Medal of the Royal Astronomical Society. As a historian of astronomy and a practicing astrophysicist, he is one of that rare breed who can combine experience to write authoritatively within both disciplines, and this is also evident in his other books, including Eye on the Sky: Yerkes Observatory’s First Century (co-authored with John R. Gustafson and W. J. Shihol Unruh) and Pauper and Prince: Ritchey, Hale, and Big American Telescopes.

If this review had to be as short as possible, then it would consist of two words from the summary on the dust-wrappper of the book – ‘exceptionally readable’.

R. A. Marriott

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Astronomy Through the Ages: The story of the human attempt to understand the Universe

by Robert Wilson


This book charts the story of how humans have understood the universe from the time of the ancient Greeks through to COBE, the Hubble telescope and Hawking. It describes how ideas have been modified and how the astronomers’ view of the scale of the universe has often been enlarged with each major breakthrough in understanding. The book is aimed at ‘the intelligent lay person’ and the book claims to be free of mathematics. (There is one exception to this, the ubiquitous E=mc^2.) There are also no graphs, which is a shame, as the text sometimes becomes convoluted and difficult to follow when a graph or a simple formula would have been easier to understand.

The author is Sir Robert Wilson FRS, Emeritus Professor of Astronomy at the University of London. The book arises out of a course on the history of astronomy for non-scientists. The last book I reviewed for the Journal arose out of a course for non-scientists in an American university! Following the success of the almost mathematics-free Brief History of Time, are publishers encouraging their authors to dig out general studies courses and turn them into books, or am I being too cynical?

Whatever the reason for the production of this book, it is a well-informed study of the history of the subject. In places a little mathematics would have made the text easier to follow and the book would certainly have benefited from more pictures and diagrams. The author is also fond of very long sentences. The simplified Periodic Table shown while describing how the elements are formed is very poor. Nevertheless, the text, complete with quotations from a range of poets, describes well the story of how our current understanding of the universe came about. There is a useful glossary and full index.

Jon Reynolds

Jon Reynolds was formerly a lecturer at Westminster College, Oxford and is now a schools adviser.